cycles

September 1957

FOUNDATION FOR THE STUDY OF CYCLES
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THE DIRECTOR'S LETTER

Dear Member:

There seems to have been a good deal of favorable comment in regard to an article in our June report which I called 'What's Ahead for Corn Prices?'' In this article I not only told you about a 5½-year cycle in corn prices, but I gave you the odds in favor of an *advance* due to end, ideally, in April 1958.

As you seemed to like this article I am giving you in this issue another article of the same sort. I call this one "What's Ahead for Wheat Prices?'' It discusses the 9.3-year cycle in wheat. This cycle is *downward* at the present time. The article gives you the odds in favor of various prices at the ideal time of trough, February 1960.

It seems strange to me that articles of this sort attract attention. *All* the articles I write give you this information, although perhaps not spelled out in such complete detail. Every cycle that I tell you about *automatically* puts you on notice of the probability of an advance from time of trough to time of crest, of a decline from time of crest to time of trough. You can deduce the odds well enough for all practical purposes from the charts I always furnish. However, if it helps to have the odds spelled out for you numerically as in the corn and wheat price stories I'm glad to do it for you.

Cycle Projection

It may be in point to discuss the difference between the sort of knowledge given by a cycle projection and the sort of knowledge given you by an expert in wheat, let us say. The wheat expert says "I think that over the next so many months the price of wheat will go down or up, as the case may be.'' He tells you what he thinks will happen *this* time.

The cycle student, on the other hand has no idea of what will happen *this* time. He doesn't know anything about the demand for wheat, the stocks of wheat, the yield per acre of wheat, the planting of wheat, the government control and/or price support policies, etc. etc. He doesn't know whether, *this* time, wheat will go up or down in price. What he does know is one element - the cycle - *which usually dominates*, and the *odds* favoring an advance or a decline.

In connection with wheat prices for example he knows that one of these cycles is 9.3 years long. He knows the strength of this cycle. He knows when it turns. He knows the extent to which it ordinarily dominates. In other words, assuming that it continues, he knows the *odds* favoring an advance or a decline.

"Assuming That It Continues"

The crux of the matter is of course the phrase "assuming that it continues.'' For a well substantiated cycle, there need be no doubt in your mind that the cyclic *force* will continue. Something in our environment switches on and off at regular intervals just like one of those flashing electric signs. There is every probability that it has been doing so from time immemorial and that it will continue to do so into the far distant future.

There is however a legitimate point of doubt which you can raise in this connection. "Granted," you may say "that the *force* will continue, will the *effect* continue? With all the government interference in business, managed money, price supports, preparation for a possible World War III etc., will the cyclic force continue to *dominate?* The force may be there all right, it may be operating, but can it make itself *felt* as it used to?"

This point is well taken. The answer is: as best we can observe price and production behavior, the cycles do seem to be continuing with full force and effect. It is a foolish man indeed who ignores them!

Both Approaches Valuable

The approach of the expert who reasons things out (without knowing) and the cycle analyst who knows the probabilities (without reasoning) supplement each other. Each has his place. When they are together, you can compound your assurances. When they differ, you are put on notice to be careful,

Yesterday I met a man in charge of investment policy for a large bank. He said, "I'm glad to meet you. I used to be a member of the Foundation. I found your reports very interesting. But I didn't get any practical use out of them, and I've got a lot of stuff to read, so I dropped out."

What a foolish fellow! From *Cycles* he could get an *additional* slant on the probabilities of the coming up or down movements of hundreds of things that concern him. It is true that *cycles* will not tell him whether General Motors is or is not a better buy than General Electric, but there are dozens of places where he can get information of that sort. There is however, so far as I know, *only one place* where he can obtain scientific knowledge in regard to the rhythmic cycles which, for the most part, *dominate* the behavior of the things which constitute his field. Is the fellow short sighted? Or am I at fault for not making clear the vital connection between our work and *every* attempt to assay the future? Cycles are not the whole answer, but a knowledge of them is an *indispensable* ingredient. Cycles give you the *odds*!

WHY DIFFERENT CYCLE LENGTHS

Why are there different cycle lengths in different things? Why, for example are corn prices dominated by a 5½-year cycle, wheat prices by a 9.3-year cycle?

The answer is simple: No one knows!

For that matter no one knows why strawberries respond to red light waves, plums to blue light waves, bananas to yellow light waves. All three colors of light are equally available all around us but strawberries, plums, and bananas are *selective*. So are wheat prices, corn prices, and all the other phenomena that respond to cyclic forces. You have to take it as a fact. The explanation will come when we know more.

Cordially yours,

Edward R. Dewey

Director

WHAT'S AHEAD FOR WHEAT PRICES?

THE 9.3-year cycle in wheat prices is exerting a *downward* influence on wheat prices at the present time. This downward influence began in the middle of 1955; it will end February 1960. From then until October 1964 the 9.3-year cycle will be exerting an *upward* influence.

Fig. 1 below charts wheat prices from January 1948 to date. It also diagrams the 9.3-year (111.6 month) cycle combined with an estimate of the basic underlying trend. This diagram charts the most probable course of prices as best I can determine them by using a knowledge of this one cycle alone.

This cycle in these figures was isolated in April 1953. (I reported upon it to you in *Cycles* for May 1953). The price curve in

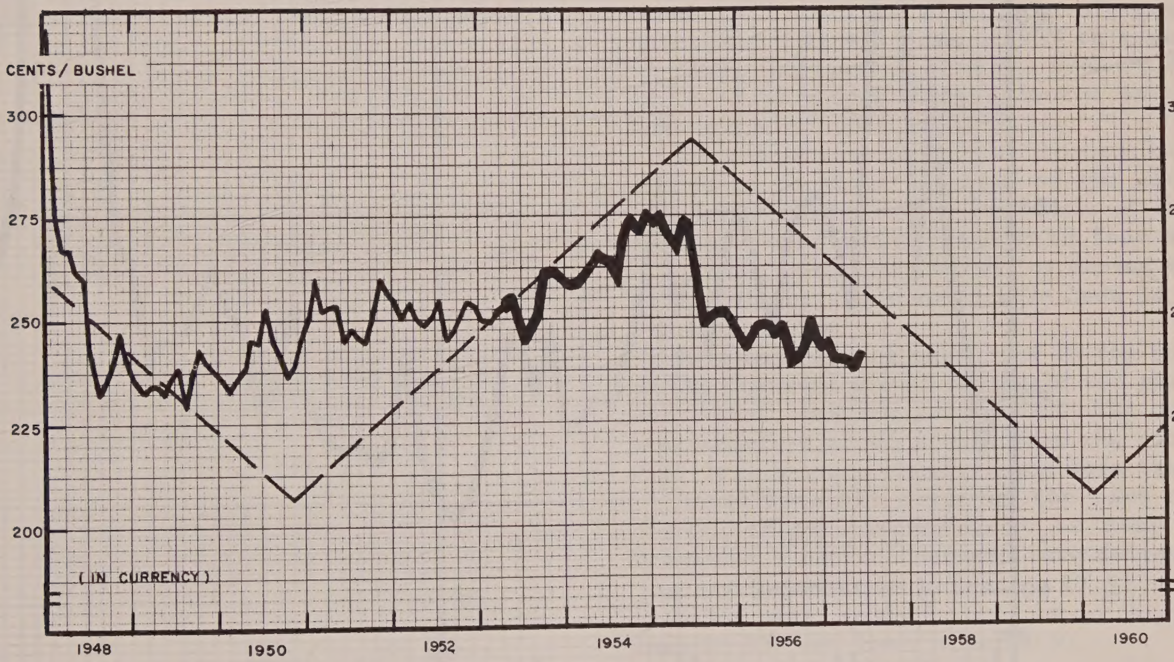


FIG. 1. WHEAT PRICES.

Wheat prices, by months, January 1948--June 1957, together with a diagram of the 9.3-year cycle combined with an estimate of trend.

The cycle tells us that the odds are 7 to 2 in favor of a decline from the middle of 1955 to February 1960.

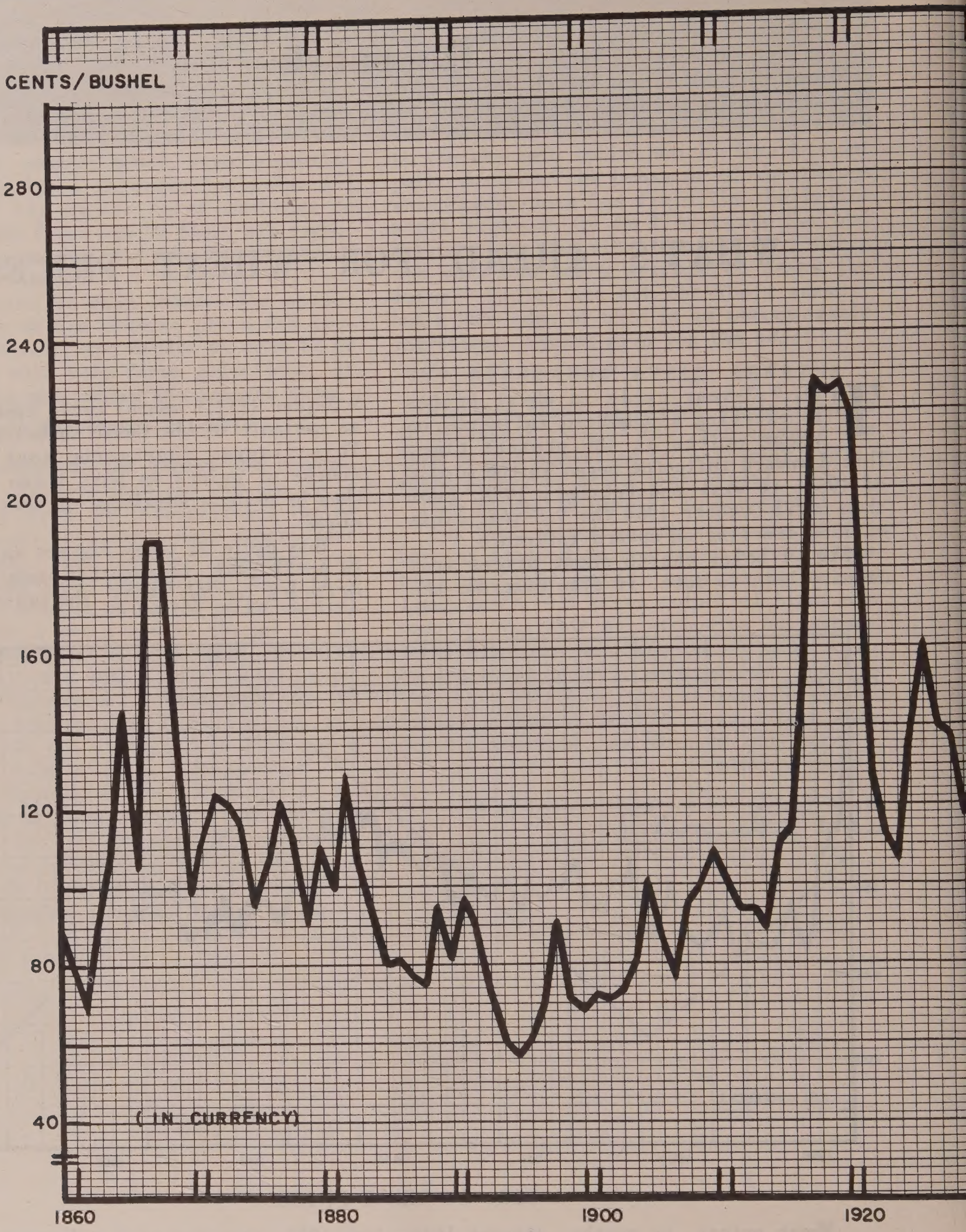


FIG. 2. WHEAT PRICES, 1859-60—1956-57, IN CURRENCY

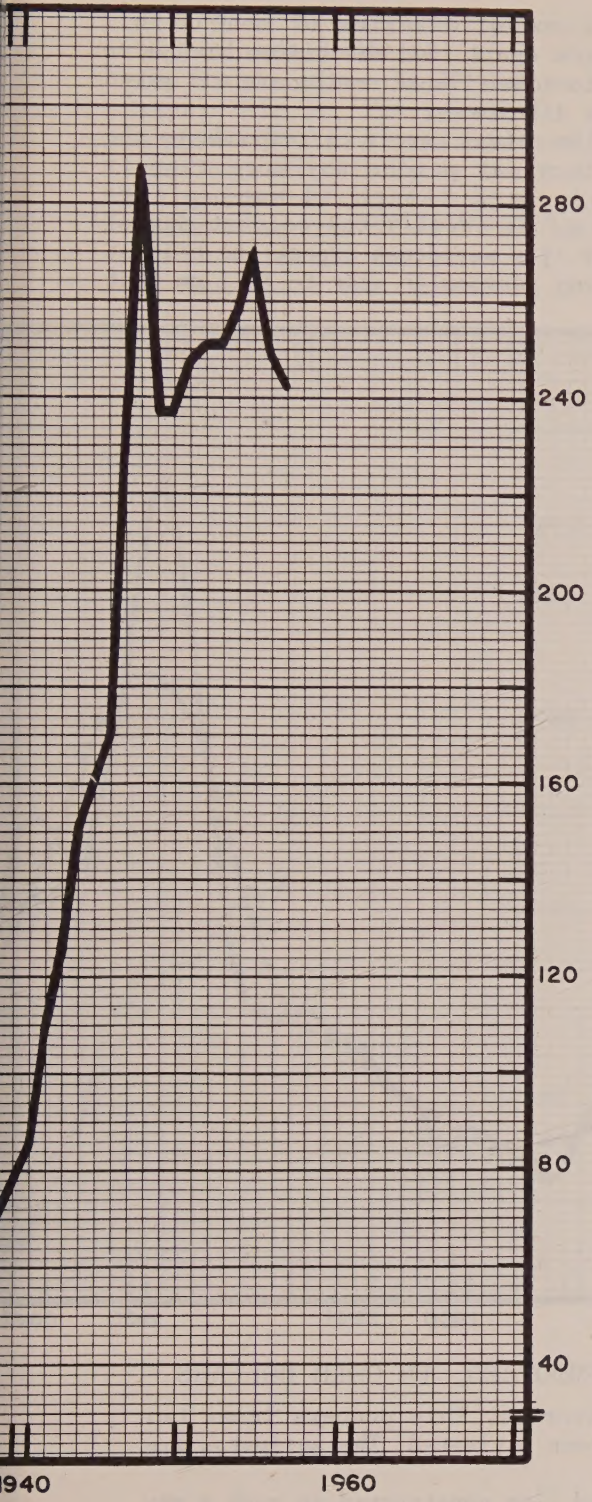


Fig. 1 has been made extra heavy from April 1953 forward to show you how prices have unfolded since the discovery of the cycle.

Cycle Knowledge in Terms of Odds

Cycle knowledge is in terms of *odds*. Based on the experience from 1867 to date the odds are 7 to 2 that (barring war) the price at the next ideal time of low (February 1960) will be lower than the price of $2.678 which was quoted for the last ideal time of high (June-July 1955). In the past, between highs and lows of the 9.3-year cycle there have been seven declines, two advances. Assuming the cycle to be significant, this puts the odds at 7 to 2 (3½ to 1) in favor of a profit for a short position from ideal time of crest to ideal time of trough.

The Gain

What will be the gain that can be expected from the short position referred to above? This can easily be figured. From Table 1 below you can see that the gains from a short position at ideal time of crest to a cover at ideal time of trough have ranged from a loss of 25% to a gain of 135%. The *typical* gain has been 20.4%. If *one* figure had to be selected as the most probable, this would be it.

On the other hand, the losses have tended to be small and some of the gains have tended to be large. The result of this fact is that your *average* gain from all nine short positions called for during the period of the study would have been 34.4% per transaction.

In a majority of instances in the past on the downward leg of the cycle the gains have ranged between 12% and 78%. The odds are therefore about 5 to 4 that the gains will fall between these limits this time.

As we know the price at the time the cycle turned downward, it is easy to translate these percentages into dollars. The most probable price is $2.22. The probable range (odds 5 to 4) is not higher than $2.39, not lower than $1.50.

Don't forget that there are two chances out of nine for *greater* profit and two chances out of nine for an actual *loss*— that is, for wheat to be higher in February 1960 than in June—July 1956.

Timing

Just as you can know the odds in regard to the probable gain, you can know the odds in regard to the probable time of the bottom of the current move.

If you had to pick one particular month as the most probable it would of course be February 1960, for that is the date of the low of the ideal cycle. That is, February 1960 is one of a series of months, all 9.3-years apart, at which the lows have *tended* to come. (These months are all given in Table 1 below.)

But the actual rarely corresponds to the ideal in wheat prices any more than in weather. Even though in many places February 1 is *ideally* the coldest day of the year, you would not expect the coldest day of *any particular year* to fall on that

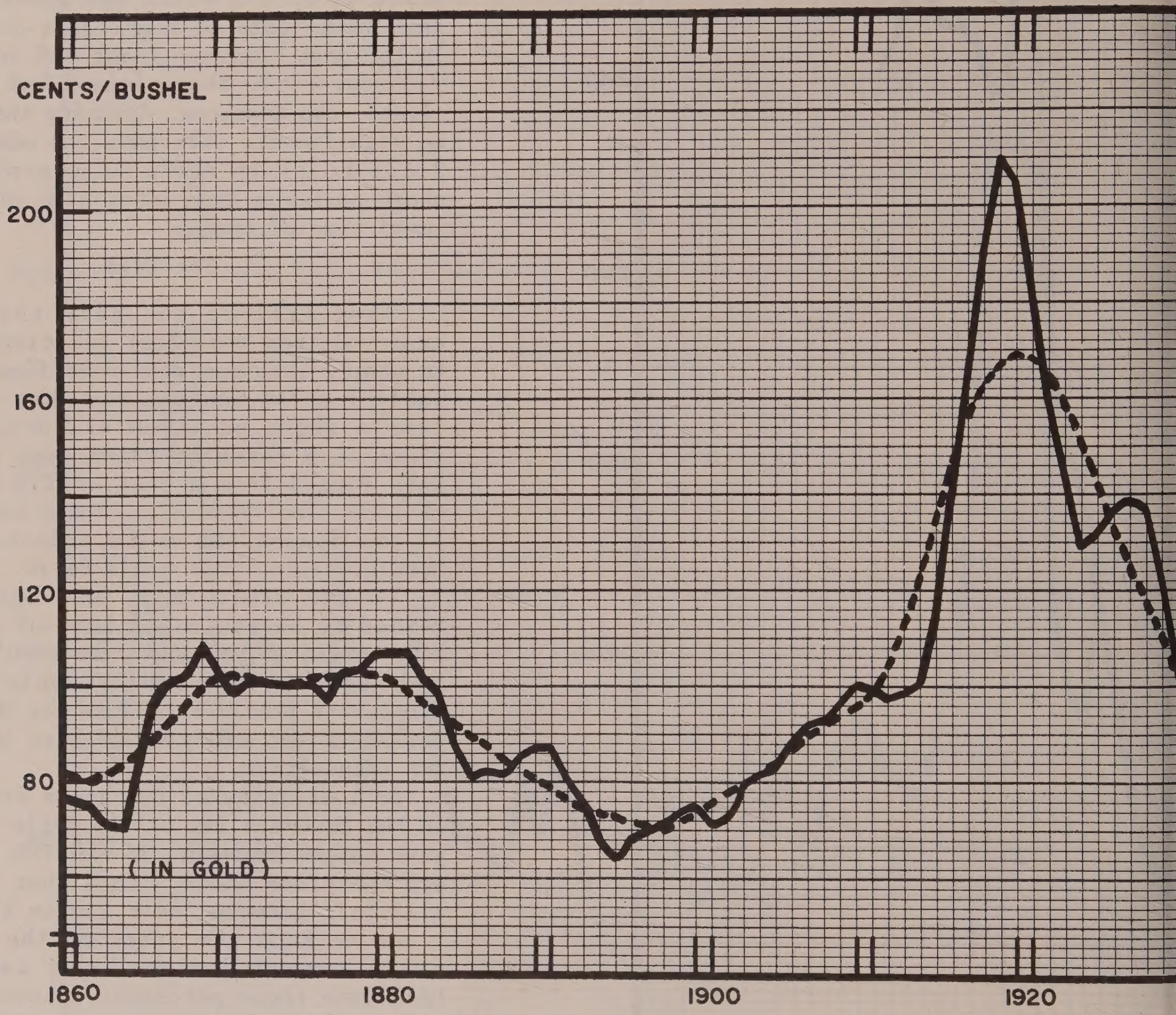


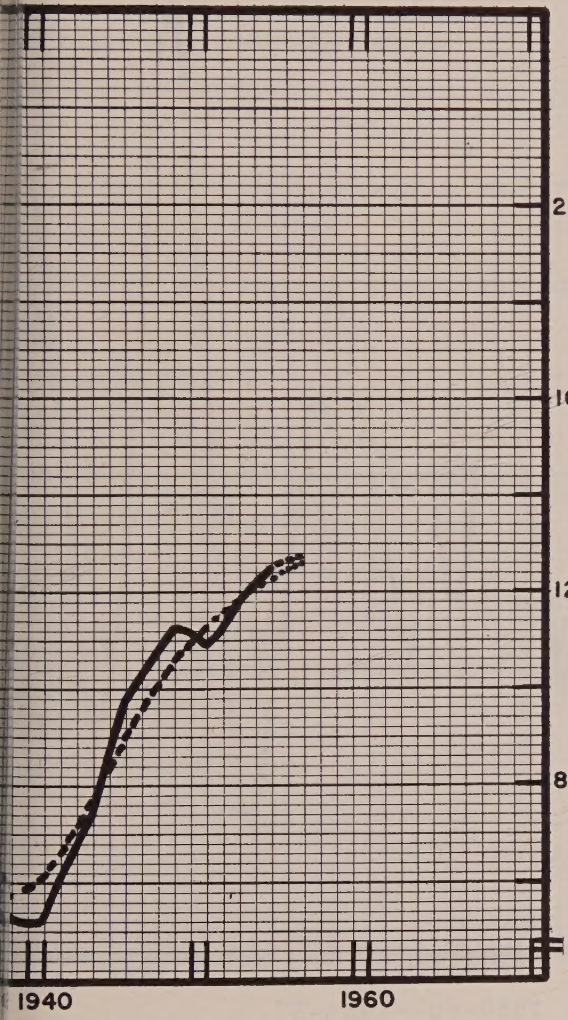
FIG. 3. WHEAT PRICES, 1859-60--1956-57, SMOOTHED, IN GOLD DOLLARS.

The smoothing is by means of a 5-year moving average. This process loses two values at the end of the series. These values have been estimated. The estimates are shown by a broken line.

The smooth broken line 1859-60—1956-57 is a trend line constructed in such a way as to remove any regularly recurring 9-year cycle. It is a 5-year moving average of a 9-year moving average. Such a trend loses six values at the end of the series. These values have been estimated. The estimates have been shown by dots.

day So it is with wheat prices. February 1960 is merely the bull's eye at which the low is shooting. In actual fact it will rarely hit it. The low of the move will almost certainly come early or late. Our knowledge of this cycle will not tell us, in any particular instance, which it is going to be, but it will tell us the *range* within which the variation will fall.

Based upon the experience 1867 to date the odds are 50-50 that the actual low will fall within a year one way or the other from the ideal date—that is between February 1959 and February 1961. Half of all the lows of our past record have so fallen.



The 9.3-Year Cycle

As all these probabilities depend upon the significance of the 9.3-year cycle in wheat prices, it may not be amiss to review some of the facts which have led to the conclusion that there is such a cycle in these figures.

Fig. 2 shows average annual wheat prices by crop years, 1859-60 through 1956-57.

Fig. 3 shows these same prices smoothed to iron out the minor wiggles and with values expressed in gold dollars instead of in currency. This removes some of the distortions and makes the 9.3-year cycle easier to see. Fig. 3 also shows a smooth moving average trend line 1859-60 through 1950-51 and an estimate of trend 1951-52 through 1956-57.

Fig. 4, which appears on pages 234 and 235, shows the percentages by which the smoothed wheat prices are above or below the trend (and the estimated trend). The percentages shown in Fig. 4 have been charted with a heavier line to show how they have unfolded since the discovery of this cycle. Fig. 4 also diagrams the 9.3-year cycle. Except for the distortion in the 1860's at the time of the Civil War, note the marked correspondence between the two curves.

As I said above, I first told you about this 9.3-year cycle in wheat prices in *Cycles* for May of 1953. *At that time* I pointed out that this cycle was then on its way up; that it was due, ideally, to reach its crest about the middle of 1955; that then, ideally, it was due to go down until about 1960. I also told you that, ideally, this cycle had a strength of 17½% above trend at time of crest, 17½% below trend at time of trough.

The present study was undertaken to see how this cycle in these figures has come out; to see if it is desirable to revise the length, strength, and/or timing from that which was given four years ago.

In a nut shell the answer is that this cycle has come out very well; no revisions are necessary.

A cycle that keeps on coming true after discovery is 30 or 40 times as likely to be significant as one you find in past figures. The fact that the 9.3-year cycle in wheat prices has kept on coming true is therefore quite reassuring.

The 9.3-Year Cycle Present in Other Phenomena

I have told you so much about cycles about 9 years long in various phenomena

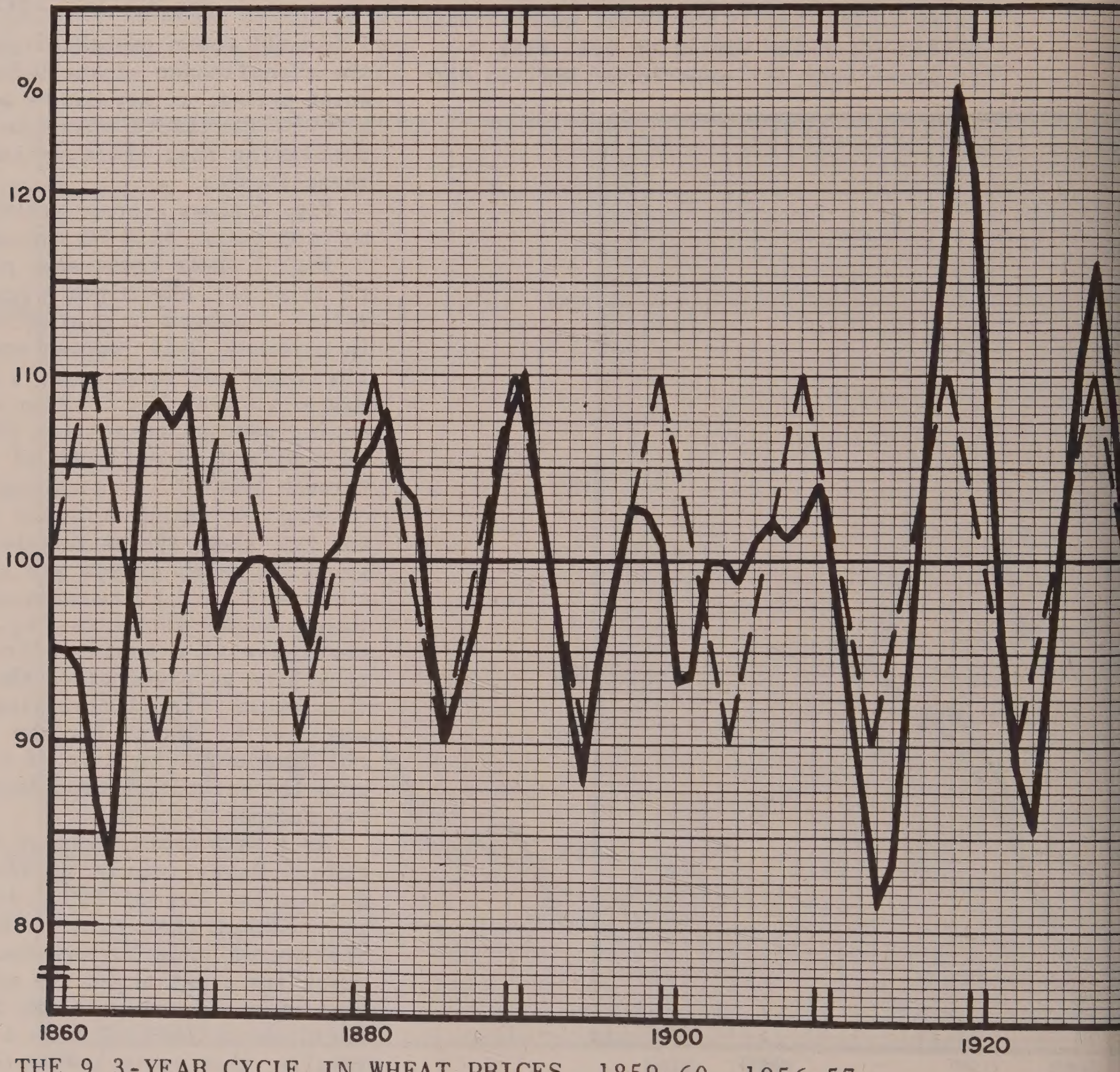


FIG. 4. THE 9.3-YEAR CYCLE IN WHEAT PRICES, 1859-60--1956-57.

The curve shows the percentages by which prices were over or under trend.

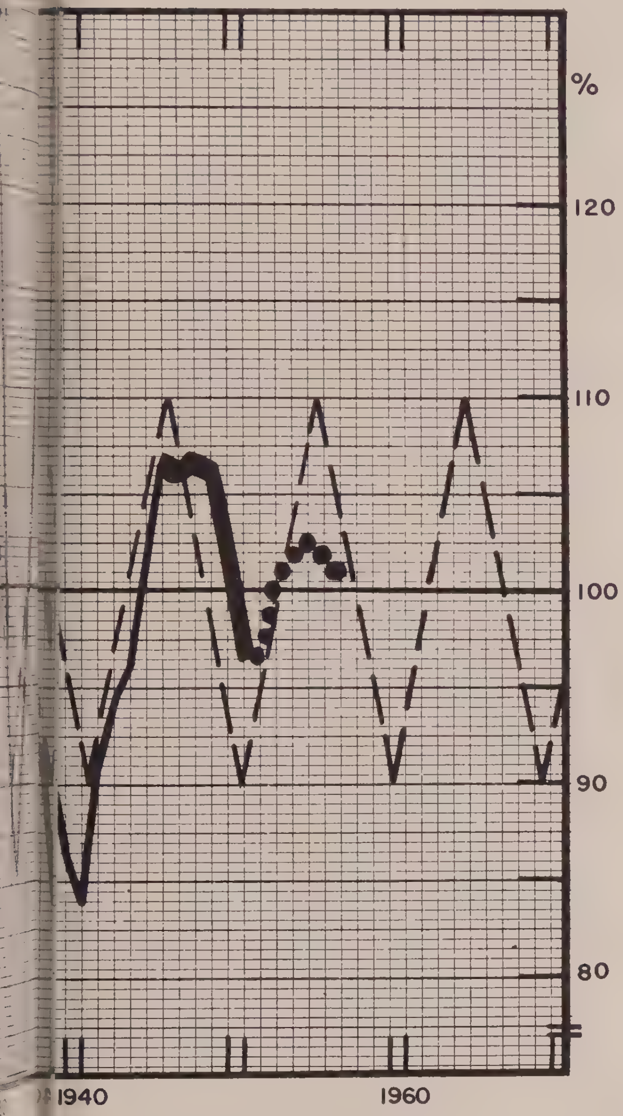
The zigzag diagrams a perfectly regular 9.3-year cycle.

The percentage curve has been made extra heavy from 1945-6 forward to show how the cycle has unfolded since discovery. The dotted line 1950-51—1956-57 represent estimates of trend and/or smoothed values.

Except for a bad distortion which occurred immediately after the Civil War the correspondence between the curve and the diagram of the perfectly regular 9.3-year cycle has been noteworthy.

that it is unnecessary to go into detail in regard to this cycle at this point.

Although it is true that, as far as I know, no one ever bothered to look for this cycle in *wheat* prices until April of 1953, this cycle was discovered in other things as early as 1867, *and has been coming true ever since*. For further details in regard to cycles 9.3 years long refer to *Cycles* for March 1956, pp. 66-76; May 1956, pp. 145-153; June 1956, pp. 167-174; July 1956, pp. 211-213; and other places.



Other Cycles in Wheat Prices

There are other cycles in wheat prices. I have told you a little something about some of them (See *Cycles* for October 1951, pp. 277-8; March 1952, p. 84; May 1953, p. 143; June-July 1953, pp. 182-188; September 1953, pp. 222-227; November 1953, p. 312 and p. 318; December 1953, pp. 340-41; January 1954, p. 7; January 1955, p. 7; October 1956, p. 271-3; January 1957, pp. 20-21.)

As soon as possible I shall audit this earlier work and bring it up to date so that you can use it, as well as a knowledge of the 9.3-year cycle, to throw additional light on what's ahead for the price of wheat.

Summary

A 9.3-year cycle has been present in wheat prices for many years. A cycle of this length is well established in many things.

I first told you about this 9.3-year cycle in wheat prices four years ago.

The 9.3-year cycle is exerting a downward pressure at the present time.

The odds are 7 to 2 for a decline from the price ($2.678) at last ideal time of crest (June-July 1955) to the price, whatever it may be, at the next ideal time of trough (February 1960).

The odds are 5 to 4 that the gain from a short position at last ideal time of crest covered at next ideal time of trough will be between 12% and 78%, That is, that price at next ideal time of trough will lie between $2.22 and $1.50.

The odds are 50-50 that the *actual* low of the present downward move will fall between February 1959 and February 1961.

There seems to be no need to revise, alter, or modify in any way, the conclusions reached in May of 1953.

E. R. Dewey

TABLE 1

Imaginary Purchases, Sales, and Short Sales of Wheat on Basis of 9.3-Year Cycle, February 1857—March 1957

(Short positions covered during war)

Month of Ideal Highs & Lows	Cash Price Wheat - Cents Per Bushel at Month of Ideal Cycle High & Low				Gain or Loss			
					In Cents		Per Cent	
	Buy	Sell	Short	Cover	Long	Short	Long	Short[3]
Feb. 1867	189.4							
Oct. 1871		118.1	118.1		-71.3		-37.6	
June 1876	105.1			105.1		13.0		12.4
Feb. 1881		97.8	97.8		-7.3		-6.9	
Oct. 1885	87.3			87.3		10.5		12.0
May 1890		94.3	94.3		7.0		8.0	
Jan. 1895	52.9			52.9		41.4		78.3
Sept. 1899		72.4	72.4		19.5		36.9	
May 1904	96.3			96.3		-23.9		-24.8
Jan. 1909		105.5	105.5		9.2		9.6	
Aug. 1913	87.6			87.6		17.9		20.4
Apr. 1918		217.0	224.1[1]		129.4		147.7	
Dec. 1922	124.8			124.8		99.3		79.6
Aug. 1927		138.8	138.8		14.0		11.2	
Apr. 1932	58.9			58.9		79.9		135.7
Nov. 1936		123.3	123.3		64.4		109.3	
July 1941	100.0			100.0		23.3		23.3
Mar. 1946		177.0	177.0		77.0		77.0	
Nov. 1950	238.5			244.6[2]		-67.6		-27.6
June-July 1955		267.8	267.8		29.3		12.3	

Long Gain	412.0
Long Loss	52.4
Net Long Loss	367.5

Short Gain	361.7
Short Loss	52.4
Net Short Gain	309.3

Total Gain	773.7
Total Loss	96.9
Net Gain	676.8

10 Long transactions averaged 36.75% profit per transaction.
9 Short transactions averaged 34.37% profit per transaction.
Average profit per all transactions: 35.62%.

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[1] SHORT POSITION DUE IN APRIL DELAYED UNTIL WAR'S END IN NOVEMBER.

[2] SHORT POSITION COVERED AT BEGINNING OF KOREAN WAR IN JUNE, 1950.

[3] PER CENT PROFIT ON SHORT POSITIONS FIGURED ON COST (I.E. COVER) PRICE.

CYCLES IN THE ADVANCE

AND

RECESSION OF GLACIERS

DR. Thor N. V. Karlstrom of the U. S. Geological Survey reports upon a number of cycles in the advance and recession of glaciers.[1, 2] In brief, he reports a "base" cycle of about 500-600 (550) years, strong recurrences on the average every 1,000-1,200 (1,100) years, and major recurrences on the average every 3,000-4,000 (3,400) years. A sub-cycle of about 200-300 years is also suggested by his investigation.

These findings are based chiefly upon radio-carbon age determination of bog deposits in Alaska and other places in North America.

They confirm European chronologies as dated from sedimentary rock deposits in Scandanavia and archeological and ancient historical records.

Radio-carbon age determinations are relatively new (1945). As you may have read, cosmic rays bombarding the atmosphere makes a certain proportion of the carbon atoms radioactive. This proportion is known.

Both radioactive carbon and ordinary carbon joins with oxygen to make carbon dioxide. Carbon dioxide, both radioactive and normal, is absorbed by plants and by the animals that eat them.

All animals and plants, while they are alive , contain the two kinds of carbon in the same proportion as they are found in the air. However the moment the plant or animal dies the radio-carbon starts to disintegrate.

Radioactive carbon, like all radioactive atoms, has a limited life as such and is continually disintegrating. After 5,568 years, on the average, only half of an original store of radio carbon atoms will be left. After another 5,568 years only half of these will be left, and so on. By the time 25,000 years have passed only about one-thirtieth of the original store will be left.[3]

By studying bits of bog exposed or covered by receding or advancing glaciers, it is possible to date the cycles of the glacial movements. This has been done by Dr. Karlstrom with the cycle results given above.

It is believed that the advance of glaciers is the result of cold humid weather. Thus the cycles of glaciation are really a reflection of long term climate cycles.

Readers of these reports are already acquainted with a 500-600-year climatic cycle. It was discovered in 1943 by Dr. Raymond H. Wheeler and reported upon in *Cycles* for January 1951. Dr. Wheeler found the length to be 510 years. A cold period is due to come the latter part of the present century according to Dr. Wheeler.[4]

E. R. Dewey

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1. Karlstrom, Thor N. V., "Late Pleistocene and Recent Glacial Chronology of South - Central Alaska," *Bulletin of the Geological Society of America* Vol. 66, No. 12, pt. 2, pp. 1581-82. December 1955.

2. -------------------- " Late Pleistocene and Recent Geoclimatic History and Bog Stratigraphy," a paper approved by the U. S. Geological Survey for outside publication.

3. Berrill, N. J., "Detectives of Time," Atlantic Monthly, Vol. 192, No. 1, pp. 23-26, July 1953.

4. Wheeler, Raymond, H., "The Effect of Climate on Human Behavior in History," *Transactions*, Kansas Academy of Science, Vol. 46, 1943, Reprinted as Foundation for the Study of Cycles Reprint No. 35. *Cycles*, Vol. 2, No. 1, January 1951, pp. 21-40.

LONG TERM TREND OF COPPER PRICES

IT may surprise you to know that the long term trend of copper prices in gold dollars, 1784 to date, has been downward. By way of illustration, for the 58-year period 1784 through 1841 the average price was 25.35¢ a pound. For the 58-year period 1842 through 1899 the average price (in gold dollars) was 17.14¢ a pound. For the 57 year period 1900-1956 the average price (in gold dollars) was 11.38¢ per pound.

(For the technician; the averages given are geometric averages, not means. The adjustment to a gold basis was made by dividing price in currency by the currency price of gold dollars.)

The long term trend of copper prices in gold dollars is shown in Fig. 1 by the straight line sloping gently downward to the right from 31.8¢ per pound in 1780 to 9.3¢ per pound in 1960.

The long term trend of copper prices is of use to cycle students because it helps them to see the long (54-year) cycle in copper prices more clearly.

E. R. Dewey

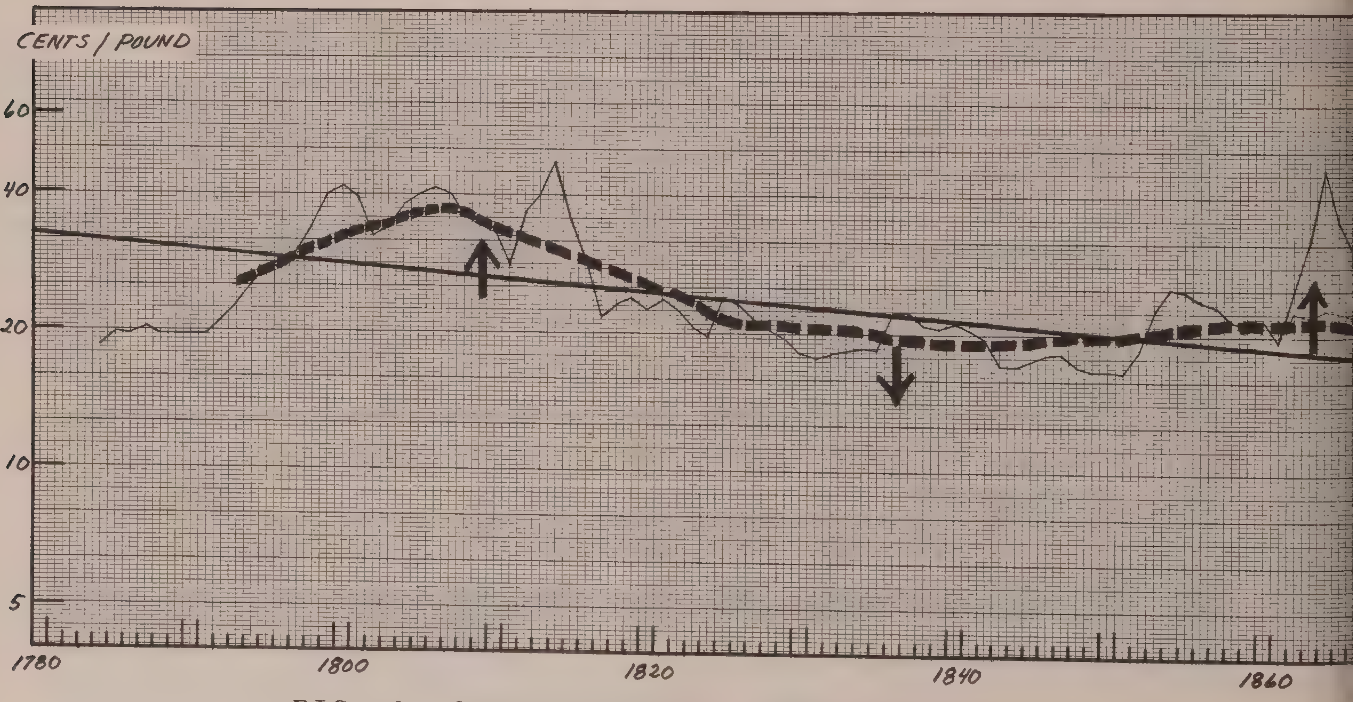


FIG. 1. COPPER PRICES, 1784--1956.

Light solid jagged line: Price of copper in cents per pound.
Dotted lines, 1861—1878 and 1932--1956: Price of copper in cents per pound, in gold.
Straight line, 1780—1960: Long term trend.

THE 54-YEAR CYCLE IN COPPER PRICES

FOR as far back as U. S. A. figures are available there have been major undulations of copper prices (measured in gold dollars) which turn out to average 54 years from crest to crest. This means of course that, ideally, for 27 years copper prices are above trend, and for 27 years they are below trend, in each 54-year period. The cross-overs from a below-trend zone to an above trend zone have come, ideally, at 1796.25, 1850.25, and 1904.25. If this behavior continues we are due to enter another 27-year above-trend zone next year.

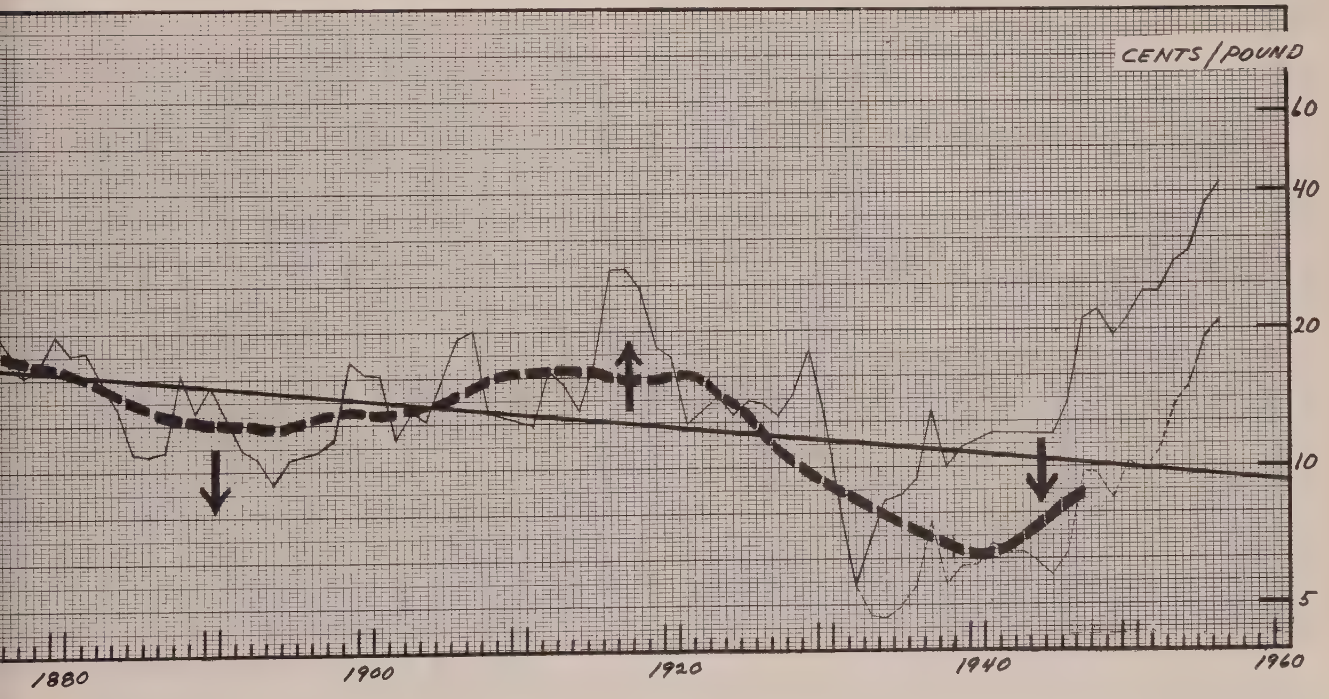
The strength of the 54-year cycle in copper prices (in gold) has averaged 139% of trend at ideal time of crest, 72% of trend at ideal time of trough. As indicated above, this cycle in these figures is now ideally on the way up. The ideal time of crest is 1971.75.

The 54-year cycle in copper prices is real in that it has actually occurred. However, our series of figures is so short that it has had a chance to repeat but three times. Three waves are so few that they could easily come about as a result of chance. On the other hand the fact that a 54-year cycle has been found in wheat prices back to 1260 (697 years; 13 repetitions) gives weight to the idea that the 54-year waves in copper prices are the result of a basic 54-year cyclic force which will continue.

The 54-year cycle in copper prices as it has unfolded, 1784 to date, is shown by the heavy broken line in Fig. 1 below.

A new synthesis and projection of copper price cycles, to include the trend and the 54-year cycle, will appear in an early issue.

E. R. Dewey



Heavy broken lines, 1793--1947: Medium term trend (This line is an 11-year geometric moving average of the prices of copper, in gold). This line shows you the 54-year cycle as it has actually unfolded.

The Arrows: Ideal time of crests and troughs of the 54-year cycle are shown by arrows. Ratio Scale.

LONG TERM GROWTH TRENDS IN THE AMERICAN ECONOMY*

by Edward R. Dewey

III

The Growth Trend in Our Basic Industries—

Continued

This little book is dedicated to the proposition—so often overlooked—that the American economy is growing at an ever decreasing rate, and that ultimately a time will be reached when we will enjoy little or no further growth.

Previous installments have shown that growth at a decreasing rate is universal in nature. In fact it can be said that this is the law of growth. The American economy is no exception to this universal law.

Charts have been presented to show that population, manufacturing, exports, and imports all conform to this basic law. This installment continues the exposition by discussing variations from normal growth behavior. Future installments will discuss further, and attempt to project, the growth trends of various individual industries.

THE fundamental law of growth is that everything in the Universe (except our national debt!) grows at a lessened rate as it grows older.

The National Debt

(The crack about our national debt is not a joke. It is a grim reality. Of course the situation cannot go on. Unless the underlying growth trend of our national debt changes, we will *inevitably* face repudiation. I suspect that this will happen after the next major war. It may happen before if we should try to buy ourselves out of a major depression. More about all of this in a later chapter.)

Normal Growth

Usually the underlying growth trend of a series of figures can be expressed by a smooth curve of the Pearl-Reed sort—a curve which is concave downward when charted on ratio scale. I have already shown you a number of examples of normal growth. I shall show you many more in future installments. In the meantime glance at Fig. 6 which shows a number of normal growth trends as they have actually unfolded.

Variations

There are, however, variations from normal behavior that we meet from time to time. It may be well to discuss some of these variations before we get too deeply into the consideration of the trends of the various industries.

Rebirth

The first variation I want to discuss with you is the one caused by what is called *rebirth*. The thing that is growing suddenly experiences more favorable growth condition. A new growth trend sprouts on the back of the old one (See Fig. 7 for four examples from real life).

We have already encountered an example

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*A REVISION OF CHAPTERS I-IV OF *Cycles—The Science of Prediction* BY EDWARD R. DEWEY AND EDWIN F. DAKIN, TOGETHER WITH SUPPLEMENTAL MATERIAL.

of rebirth in the chart diagramming the population of Germany (Fig. 9 of Chapter II, as published in *Cycles* for July 1957, p. 191). In fact, most of the pouplation charts would show rebirth characteristics if we could get figures going back far enough. For example, the population growth of the United States as we ordinarily think of it is merely a rebirth superimposed upon the mature and stable population that had been developed over the centuries by

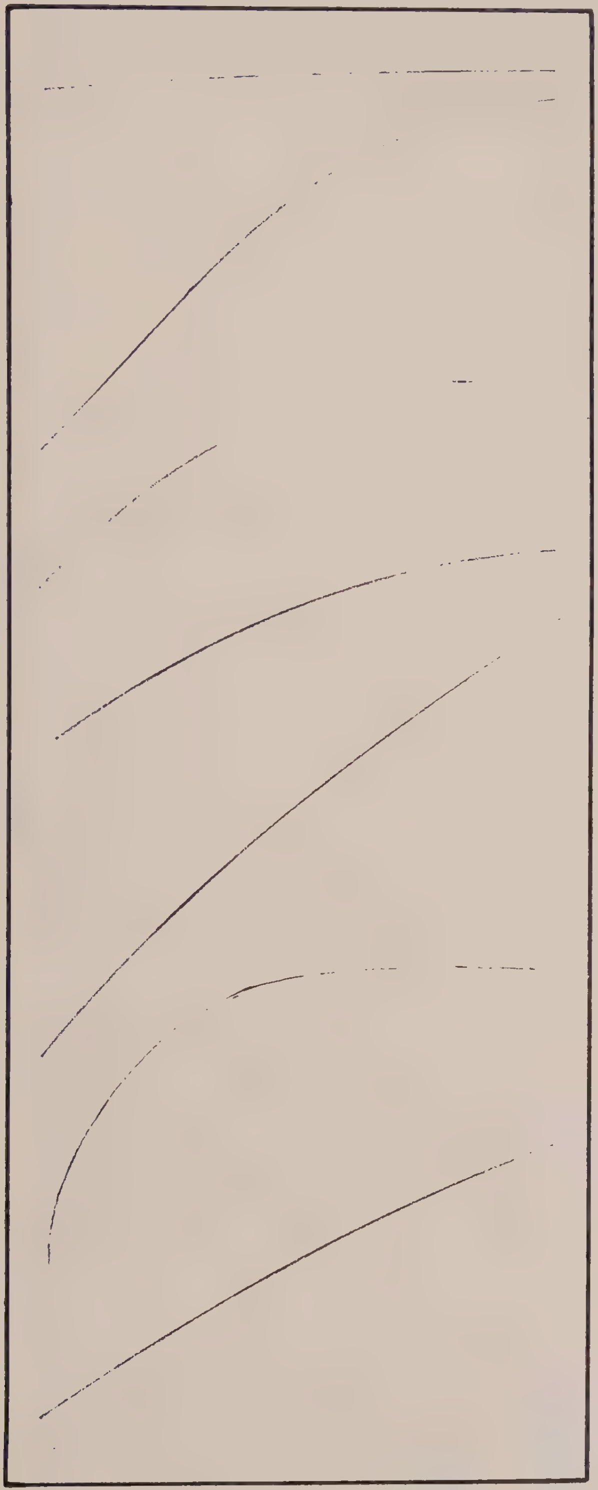


Fig. 6
EXAMPLES OF NORMAL GROWTH CURVES
Ratio Scale.

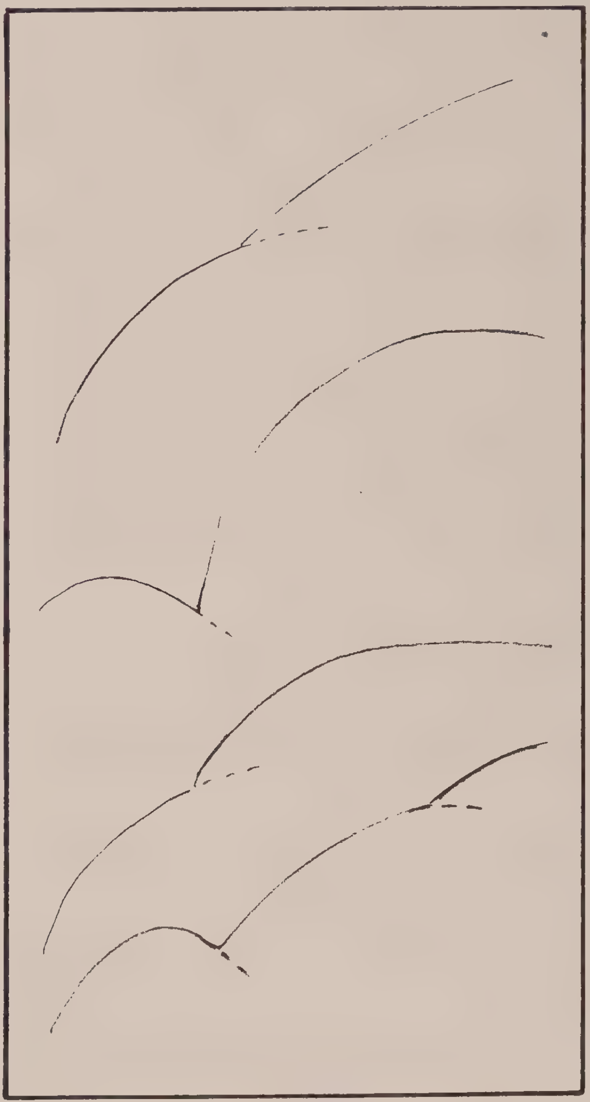


Fig. 7
EXAMPLES OF REBIRTH CURVES
Ratio Scale.

the American Indians. We find a similar situation in the population of other countries which have developed, for one reason or another, out of relative stability at a lower level.

Rebirth need not develop out of maturity and stability. It can spring *ahead* of maturity from a growth curve still actively growing. It can spring *after* maturity from a growth curve showing signs of decay.

Rebirth is not limited to populations. Anything that grows can experience it. A tree, stunted by lack of food or water or air or sunlight, will suddenly start to grow at an accelerated rate when the missing elements are supplied; so will an animal. A company, an industry, even a whole economy (witness Russia) may, under certain circumstances, experience rebirth.

Regrowth

The second variation of the normal basic growth trend which needs to be discussed is *regrowth*. This is the sort of thing which happens when a tree or an industry is chopped back and then resumes its normal growth patterns. Very often, with a favorable root structure intact, or basically favorable conditions, the thing that is growing hurries to catch up to its old pattern. Regrowth is diagrammed in Fig. 8, which shows how cotton production was cut back by the Civil War and later caught up with itself.

Decay

A third variation of the normal growth trend is *decay*. Decay—once maturity has been reached—is so frequent that it should really be considered normal and not a variation. As a rule decay is gradual, but it can be rapid. Fig. 9 gives you several examples of decay.

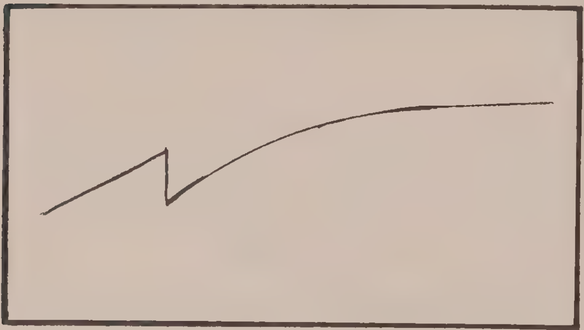


Fig. 8

AN EXAMPLE OF A REGROWTH CURVE
Ratio Scale

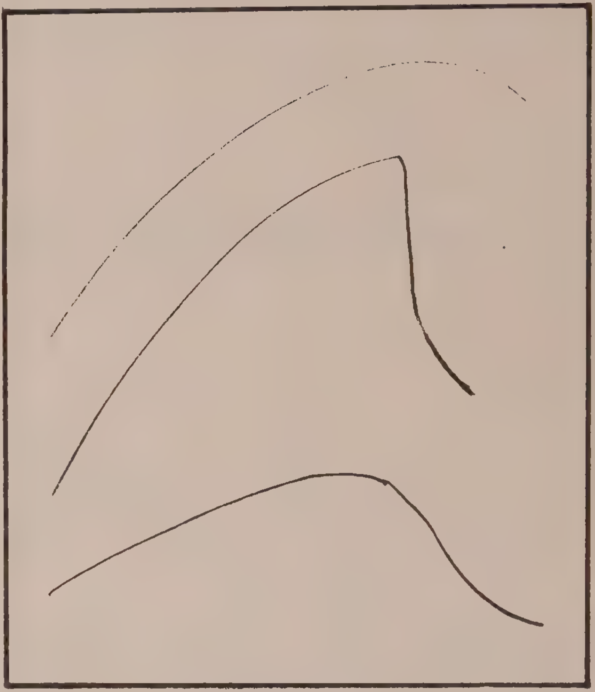


Fig. 9

EXAMPLES OF DEATH AND DECAY CURVES
Ratio Scale.

Decay of an industry is sometimes so rapid that it often seems more appropriate to speak of the industry as having been *killed*. The horse drawn vehicle industry was "killed" by the automobile. The liquor industry was "killed" by prohibition—at least for a time. The passenger car industry was "killed" by World War II. And so on.

Displacement

A fourth variation needs to be mentioned. Sometimes something occurs to raise an industry to a new level. For example, a tariff change might enable an industry to double overnight. There is however no rebirth. The industry merely takes over and supplies a segment of the demand formerly cared for by the foreign producers. After the initial spurt the industry will grow

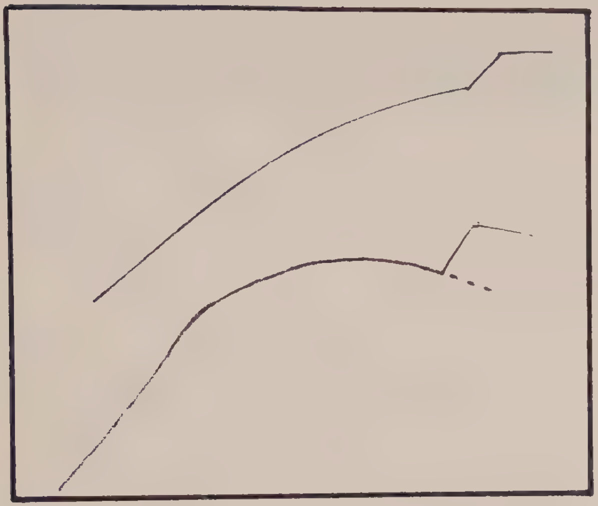


Fig. 10

EXAMPLES OF DISPLACED GROWTH CURVES
Ratio Scale.

no faster than before. Subsidies of other sorts often cause similar results. We may call the growth curves that behave this way *displaced*. Examples of displaced growth curves are shown in Fig. 10.

There is evidence that certain aspects of our economy—and perhaps even the entire economy—may be experiencing some displacement at the present time. This possibly will be explored in a later chapter.

Future Installments

With these variations in mind we shall be better able to understand the growth characteristics and the future growth prospects of the various industries to be examined in detail. These include iron and steel, railroads, ship building, construction, automobiles, cattle, corn, cotton, wool, wheat, malt liquors, lumber, cotton spindles, coal, copper, lead, rayon, airplanes, electric energy, natural gas, petroleum, paper & wood pulp, and tobacco.

Two Good Ideas

Dear Friends:

Your Mr. Dewey is doing very fundamental work—which will be used for hundreds of years in the future. I am keeping copies of your studies in fire proof vaults.

My only criticism is that he does not give sufficient consideration as to how politics can *affect* cycles—not *eliminate* them—but affect them. Regards to you all.

Roger Babson

Wellesley Hills 81, Massachusetts

Dear Mr. Dewey:

I find with most people upon informal discussion of the phenomenon of cycles, that, as you have often indicated, the study of cycles is not clearly understood. The average person thinks that the science of cycles must be exact; regular repetitions of a single chain of events such as the daily visits of the sun or moon rather than a *tendency* toward repeated performance of events. They seek to learn exactly when the stock market goes up!

Would it be helpful and wise to print permanently in the Cycle Magazine a concise statement along the lines indicated in enclosed sheet?

No doubt you and others have thought of similar ideas. It may be ideas go in cycles!

I recognize that what I've written is crude and there may be good reasons for not including such a preface or preamble. If so, forget it.

Best wishes.

Sincerely,
Ralph C. Benner

Washington, D.C.

Col. Ralph Benner is the grandson of Samuel Benner, the cycle pioneer of whom I have written so often. *Ed.*

COL. BENNER'S STATEMENT:

Purpose

The objectives of the Foundation are conducted toward the investigations of the causes and effect of cycles and their relation to human affairs.

Primarily, basic research is performed. Broadly speaking, such investigation may and often do cut across many scientific lines of endeavor.

Cycles are of continuing interest to man whether they be tangible as are found in nature or intangible as are evident in business.

Problems

It is recognized fundamentally that:

1. Many cycles are irregular but they do reoccur.
2. Their crests or troughs may vary ¼ early or late.
3. Many cycles combine forming a synthesis.
4. Cycles are often distorted by other or outside causes.
5. Techniques must be employed to isolate and study cycles.
6. The study of cycles is a continuing one.
7. Data on phenomenon requires time to collect and evaluate.

Progress

The study of cycles is only in its infancy. The Foundation will appreciate the receipt of pertinent cycle data, your ideas or funds to carry on its research. Small contributions from many add up to much. And large donations can be put to special rewarding use.

THE MODIFIED GEISINGER INDICATOR

THE Modified Geisinger Indicator is a series of numbers which, in the past, have gone up and down ahead of corresponding movements of the Federal Reserve Board Index of Industrial Production. Thd Modified Geisinger Indicator thus throws some light on the probabilities of the future.

The F. R. B. Index of Industrial Production measures physical production in the U. S. A. It is a weighted average of tons, yards, gallons, and numbers of things produced each month.

The Modified Geisinger Indicator is the sum of two Indicators, the Geisinger Indicator and a First Difference Indicator.

The Geisinger Indicator was invented by Robert Geisinger. It is derived from figures which are published each month in the *Survey of Current Business*. It is charted for you as Curve A on pages 114 and 115.

Curve B on these same two pages charts the First Difference Indicator, which is merely the amount by which the smoothed F. R. B. Index is above or below the value for the preceding month. The smoothing is effected by means of a centered 3-month moving average and a 2-month moving average posted to the second position.

Curve C charts the sum of the values of Curves A and B. This curve is called the Modified Geisinger Indicator. It suggests in a general way what the F. R. B. Index may do some eight months later.

Curve D charts the values of the F. R. B Index of Industrial Production.

Curve E re-charts curve C, advancing it by 8 months. This advance is for two reasons (1) so that you can more easily compare the past behavior of the Modified Geisinger Indicator with the behavior of the F. R. B. Index, and (2) so that you can have a better idea of what the F. R. B. Index may do in the future.

FORECAST

INDUSTRIAL Production for July stood at 144, up a point from the 143 values for April and May, and the same as the revised value for June.

As expected, the Geisinger Indicator rose. Its value for April 1957 (December 1957 when projected) was -0.8. Its value for May 1957 (January 1958 when projected) will lie between +0.4 and -2.2. Its value for June 1957 (February 1958 when projected) will lie between +1.2 and -2.6.

Values for the 1st Difference Indicator and for the Modified Geisinger Indicator are given below.

A sideways motion continues to be indicated.

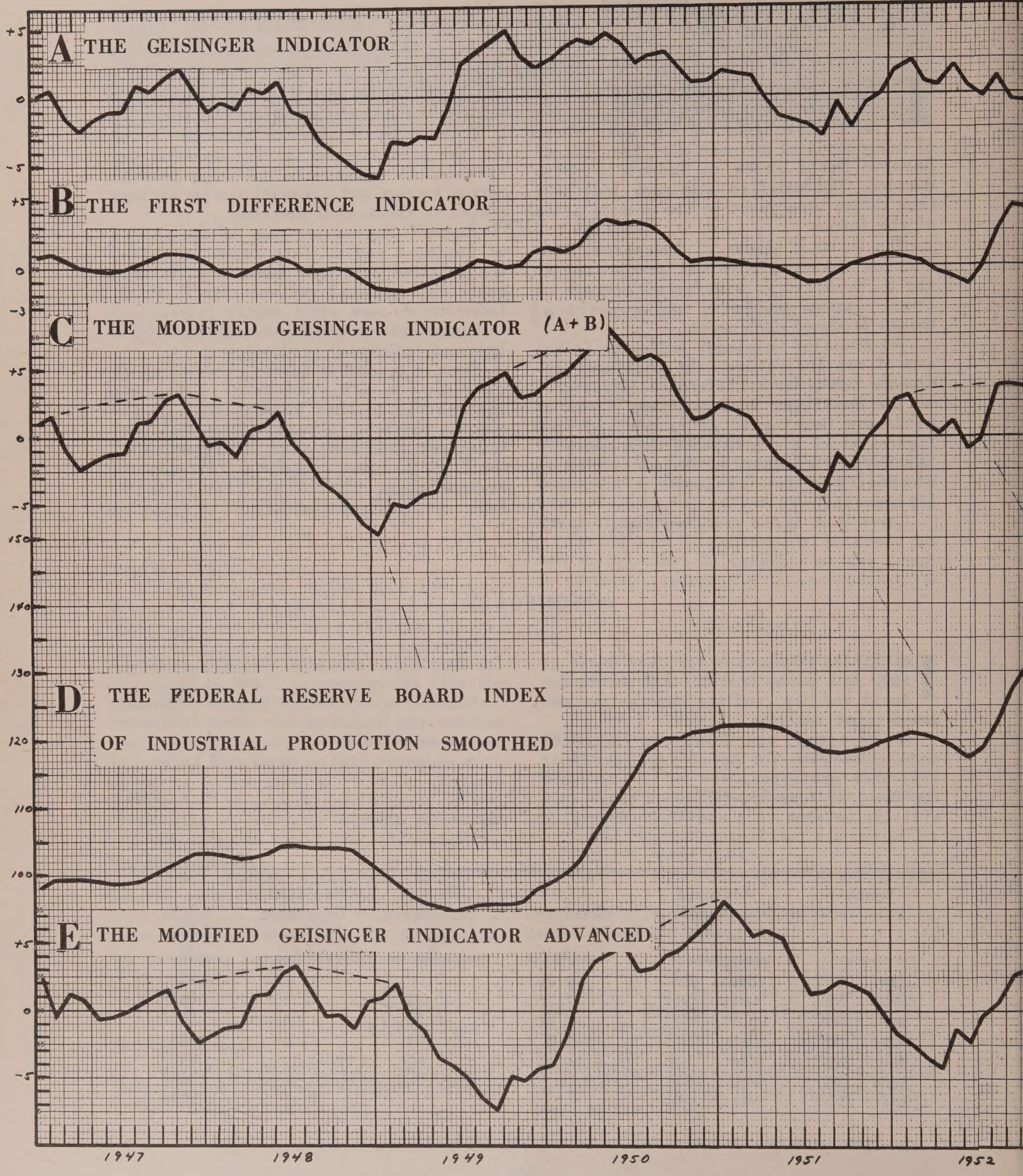
E. R. Dewey

August 29, 1957

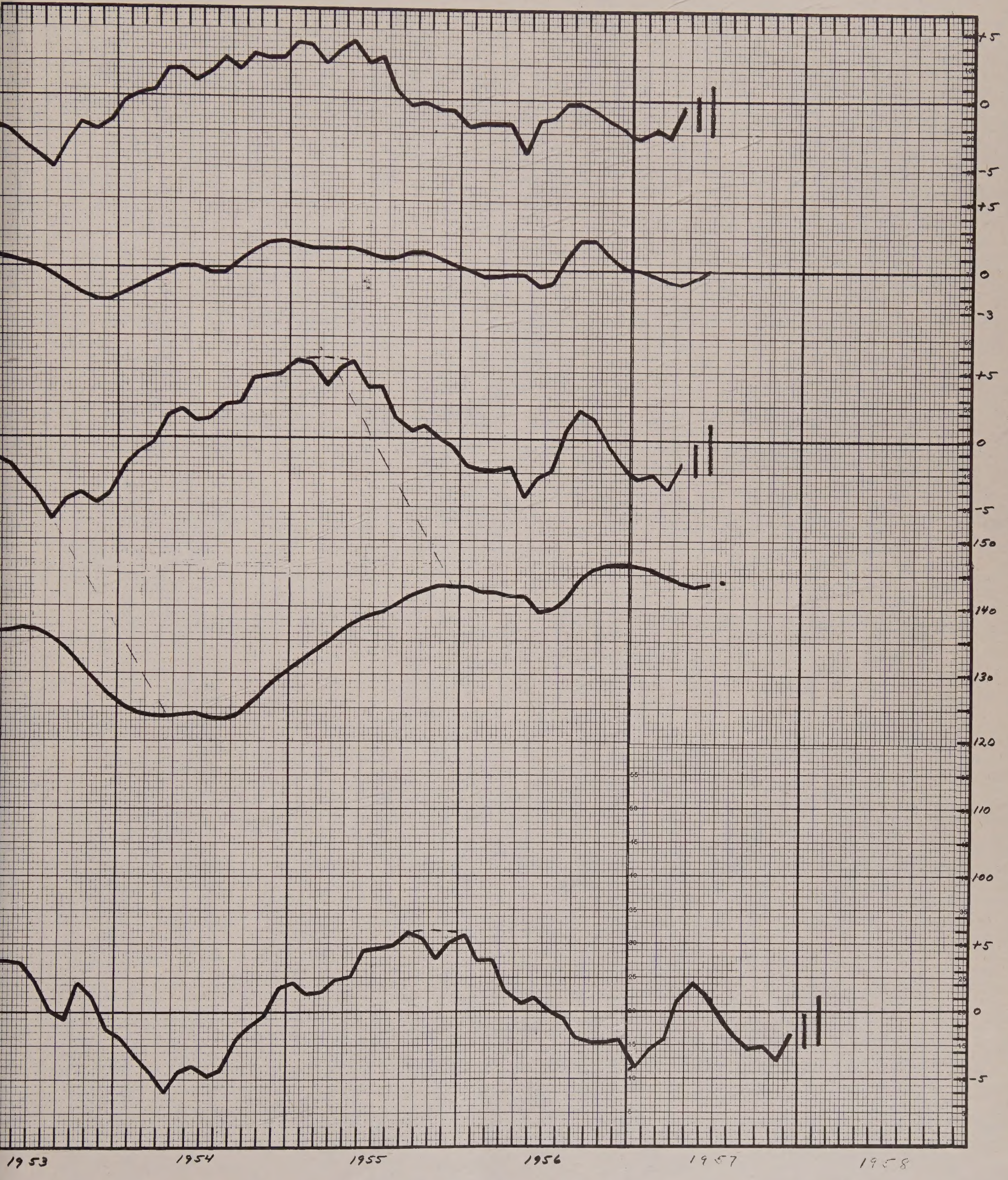
Month	Advanced (8 Months Later)	Geisinger Indicator A	1 st Difference Indicator B	Modified Geisinger Indicator A+B	F.R.B. Index D
Jan. 1957	Sept. 1957	-2.8r	0.00	-2.80r	146
Feb. 1957	Oct. 1957	-2.2r	-0.33	-2.53r	146
Mar. 1957	Nov. 1957	-2.8r	-0.83	-3.63r	145
Apr. 1957	Dec. 1957	-0.8	-1.00	-1.80	143
May 1957	Jan. 1958	(+.4 to -2.2)	-0.66r	(-0.26 to -2.86)	143
June 1957	Feb. 1958	(+1.2 to -2.6)	0.00p	(+1.20 to-2.60)	144r
July 1957	Mar. 1958	*	*	*	144p

p = preliminary r = revised * = not yet available

THE MODIFIED GEISINGER INDICATOR



OF INDUSTRIAL PRODUCTION



Turn to page 245 for the forecast.

Mr. H. A. Musham
741 No. Rush St.
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